

RECORD OF COMMUNICATION	<div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> PHONE CALL <input type="checkbox"/> OTHER (SPECIFY) </div> <div> <input type="checkbox"/> DISCUSSION <i>Bob</i> </div> <div> <input type="checkbox"/> FIELD TRIP <i>Pat</i> </div> <div> <input checked="" type="checkbox"/> CONFERENCE <i>Katie</i> </div> </div> <div style="text-align: center; font-size: small;">(Record of item checked above)</div>
TO: Bill Bryson, KDHE BOG Larry Knouche, KDHE BOG John P. Goetz KDHE BE\$	FROM: Dave Crawford, EPA SPFD Karen Flournoy EPA PMTS
SUBJECT Vulcan Materials Co. (VMC), Wichita, Ks	
SUMMARY OF COMMUNICATION <p>A meeting was held in the Top ^{Peak} office of KDHE on this site. The KDHE Bureau of Oil fields & ^{Geo}logy has for some time been the lead on the groundwater contamination problem & the remedial action on this site. John explained that VMC had recently submitted a Superfund Notification on the waste disposal (burial of the "hex" & "alpha cake" wastes). EPA was the lead agency on this site under the Superfund Program. KDHE had agreed to brief us on the specifics of the wastes disposal, the potential impacts and the remedial action at this site.</p> <p>WASTE DISPOSAL</p> <p>Bryson did most of the briefing for KDHE, although Knouche expanded in some areas where he had done particular work on the site. Several types of waste disposal or product spillage may have resulted in some gw contamination as follows:</p> <ol style="list-style-type: none"> 1. <u>Brine pit</u> Prior to the burial of any wastes Frontier (predecessor to VMC) had used a 40 acre brine pit in the area for the treatment, disposal or storage of some chloride wastes. The relevance of this was that the monitoring program had at one time found the chloride concentrations in the gw might be more of the a problem that the organics we are now concerned with. Chlorides are believed to have resulted primarily from the brine pit. 2. <u>Alpha cake burial</u> - Alpha cake was a by-product waste from the manufacture of a-BHC. The waste was buried in a solidified form. Some of the maps show the locations of this burial. 3. <u>Hex waste burial</u> Hex waste was generated in the manufacture of hexachlorinated benzene. It is described as a complex organic & would have typically consisted of a variety of chlorinated organics. The hex waste was of a more viscous nature. Some of the maps also show the locations of this burial. Burial of the "hex" waste is the disposal now of greatest concern at this site. 4. <u>Product spillage</u> At one time all of VMC product transfer lines were underground. VMC described the lines as "porous". KDHE describes the lines as leaky. The majority of the contamination is now in the groundwater may be the result of the loss of product from these leaky lines. As part of their remedial action/plant upgrading all of these lines are now above ground. <p>CONCLUSIONS, ACTION TAKEN OR REQUIRED</p> <p>HYDROGEOLOGY</p> <p>Bryson said there is really no disagreement among the geologists who have worked on this site regarding the directions of gw flow, the source of gw contamination, & the ultimate fate of these contaminants. The initial geo work to define the problem & then to propose a remedial action was done by Layne-Western as a consultant to VMC. Bryson then reviewed & approved the geo work done by LW. Recently it was decided that it would be appropriate to model gw flow (& later the transport of contaminants) at the site. A Thomas Pickett (<i>U of Ill?</i>) is doing this</p>	
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Superfund

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TO: KDHE	FROM: EPA	DATE 10/18/82	TIME
SUBJECT Vulacn Materials Co., Wichita, Ks.			
SUMMARY OF COMMUNICATION <div style="text-align: right; margin-right: 50px;"><i>Page 2</i></div> <p> the modeling for VMC. Bryson is also involved in the review of this work. On both the initial & the follow-up work Bryson has had input back prior to the final ^{final} product. </p> <p> GW flow at this site is complicated by the previous use of several large pumping wells near the site, which for a time reversed the normal direction of flow. KGE had a large well located to the north of VMC. Normally gw flow would be toward the SE (gradient of about 7 ft./mile). Use of the KGE well cause gw to flow toward the north & resulted in the transport of some of the contaminants from the alpha cake disposal to the north. USE of the KGE well has now ceased. Bryson stressed that any contaminants present in the gw north of the site would be the result of previous releases when the KGE well was used. Bryson was also confident that there were no other sources of the gw contamination found to the north of VMC. </p> <p> VMC also had a large process well to the SW of the disposal ^{areas}. After use of the KGE wells ceased this resulted in the movement of gw (and some contaminants to the SW). Use of hxx this VMC process well had also ceased. </p> <p> (Remines) Abbott Labs is located to the SSW of VMC. Abbott apparently has some gw contamination problems of there own. John said that they are addressing this xxx under their Superfund program (KDHE lead, Abbott submitted a Superfund Notification). The types of wastes disposed by Abbott are totally different that VMC & have had no effect on the activities relating to the investigation & remedial aciton at VMC. </p> <p> GW flow now would be to the SE. However the interceptor wells installed by VMC as part of the remdial action are bleieved to have essentially prohibited any gw flow leaving the VMC site. Bryson & Knouche mentioned that there are 3 aquifers beneath VMC that are now being monitored. At the present time I do not know which of these has been found to have been contaminated ((KDHE BOG files borrowed should clarify this.)). </p>			
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TO: KDHE	FROM: EPA	DATE: 10/88/82	TIME:
SUBJECT: Vulcan Materials Co., Wichita, Ks. PAGE THREE			
SUMMARY OF COMMUNICATION <u>VMC MONITORING PROGRAM & REMEDIAL ACTION</u> In 1976 KDHE began to reevaluate the waste disposal and manggement practices (both past & present) of the VMC plant. Apparently concern about the site began when some organics were found in routine NPDES monitoring at the site. As a result VMC has implemented a major monitoring (gw) program at the site. VMC has also provided some major upgrading of the plant and has completed some remedial actions regarding previous waste disposal at the site. All of these actions have been reviewed and approved by KDHE (Bryson has been the primary contact in KDHE on this.). VMC has installed a number of gw monitoring wells both on & off the site. Bryson explained that due to alternatate layers of sand & clay there are as many as 3 aquifers which are being monitored at the site. Groundwater withdrawn by the interceptor wells (part of the remedial action) is also analyzed on a regular basis. VMC provides copies of all data to Bryson. Also KDHE splits a certain number of the samples collected for their own analysis. On an annual bais VMC & KDHE meet to discuss the adequacy of the monitoirng program & the remdial action. It was in 1977 that KDHE required that VMC expand the gw monitoirng network off the site to the SE (which would be the normal direction of gw flow). Due to the influence of the some of the large pumping wells in the vicinity no contaminants have been found to have moved off the site in this direction. The monitoirng network in place essentially surrounds the site plus the off-site wells to the SW. Also KDHE continues to sample the private wells to the north of the site for residual levels of contami nation. Bryson stressed that the contamination present in these north wells was pulled off the site by the influence of the KGE wells, which are no longer used. Bryson said that there is no longer any movement of contamination off the site to the north. John Irwin of KDHE is doing a health assessment of the levels of organics present in these private wells. VMC began work on a proposal for a remedial action in 1976. They began to imple- ment it in stages later in 1976 & 1977. Bryson said that he had reviwed and approved all stages. He has also had input into the formulation of the proposals in draft			
CONCLUSIONS, ACTION TAKEN OR REQUIRED stages. Thus he can ask for modifications of proposals before they are in a final form. Other offices of KDHE have input relevant to their programs. The following are the elements of the remedial action: 1. The previously buried "hex" & "alpha" wastes have been <u>encapsulated</u> (clay cap). Bryson feels that the clay cap has been effective in preventing any continued re- lease of contaminants from the wastes buried. The concentrations of contaminants now found in the soil or the gw are the result of previous releases. Bryson does not feel that removal of the previously buried wastes would provide any additional protection of the environment. 2. All <u>product transfer lines</u> have been moved above ground, where leaks or spills can be contained. Also leaky lines have been repaired.			
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<div style="text-align: right; font-style: italic; font-size: 1.2em;">Page 4</div>			
SUMMARY OF COMMUNICATION <p>3. Alternate water supplies continue to be provided to some of the users of the private wells north of the plant. KDHE continues to monitor the levels of contamination in these wells. KDHE has not yet completed their health assessment of the contaminant concentrations in these wells but they are reported to be in the low ppb. The KDHE health assessment may determine that the consumption of the water from these wells poses no health hazards (or no greater hazard than the consumption of a municipal supply).</p> <p>4. VMC has installed a number of interceptor wells. Specifics should be in the KDHE files borrowed on this site. Bryson said that the purpose of the interceptor wells was to prevent the continued off-site movement of contaminated gw. Also they wanted to pull back some of the contaminated gw that had moved off the site to the north & SW earlier.</p> <p>Bryson indicated that the gw mont data indicate that the interceptor wells "appear to have begun to be effective". I asked to clarify this for me. Bryson said that the data on chlorides indicates that clean up is taking place. On the organics however the data has been difficult to interpret. Bryson attributes this to the fact that there may have been numerous releases from the leaky pipes in addition to the burial of wastes at the site. Bryson said that the monitoring data do indicate that "There is some slippage to the southwest". What they meant by this was that there is still some gw contamination to the sw that has not been recovered by the interceptor wells now in place. VMC also recognizes this. As a result VMC & KDHE have agreed that at least 1 additional interceptor well needs to be installed to prevent the continued release of contaminated gw to the SW & to recover previously released gw in that direction. VMC & their consultant are now working on a proposal re the proper location of this additional interceptor well.</p> <p>Gw that is withdrawn by the interceptor wells is being disposed on the site into deep injection wells.</p> <p>5. In order to understand the movement of gw & of contaminants in the gw, modelling has been used. Initially they did a gw flow model. That early model has now been satisfactorily calibrated to describe present, past & future gw flow at the site. VMC's consultant (Pickett) is now beginning work on a solute transport model. They have been using these models to determine the effectiveness of the gw pumping program & for the proper location of any additional interceptor wells.</p>			
CONCLUSIONS, ACTION TAKEN OR REQUIRED <p>At the conclusion of the meeting KONE/BOC lent me 2 of their files to review. They stressed they treat this material as confidential & want to maintain a good working relationship w VMC. They asked as also to treat this as confidential. After reviewing files will return it to KONE/BOC</p>			
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